

## **CHAPTER 9 TRANSPORTATION**

### **INTRODUCTION**

The purpose of this chapter is to provide an inventory of transportation conditions and an assessment of transportation needs through year 2030 for the City of Sandy Springs. This Transportation Needs Assessment includes automobile, transit, pedestrian, and bicycle travel modes. A wide range of planning tools, techniques and methods were employed to gain a thorough understanding of Sandy Springs' transportation needs. The activities conducted to date include:

- Developing goals and performance measures
- Engaging the public through coordination with the Citizen's Advisory Committee (CAC)
- Reviewing existing planning documents
- Using spatial and statistical analysis to analyze various transportation system elements
- Examining future transportation conditions using the Atlanta Regional Commission (ARC) travel demand model for the City of Sandy Springs transportation network

This section presents the transportation needs identified through both qualitative and quantitative assessments of Sandy Spring's multimodal transportation system. Figures referenced in this chapter are provided at the end of the chapter.

### **Role of Transportation in the Community**

Transportation serves a vital role providing internal and external connectivity and access for residents and businesses. The character of trip making in communities includes short trips usually to destinations close by, usually within the community, longer trips to destinations within and outside the community. In addition, the transportation network serves external trips passing through Sandy Springs. Typically longer distance trips use arterial roads, which are designed to facilitate traffic movement. When these routes are congested during peak hours, through traffic diverts to less desirable collector and local roads.

The presence or absence of various transportation modes within a community influences mode choice. For example, the presence of sidewalks along a congested corridor encourages pedestrian trips. A community with convenient transit access provides more choices for residents. Convenience is important to travel choice. Increased land use density with mixed used development is frequently correlated with increased use of transit and alternative modes. On the other hand, if alternative choices are lacking or not convenient, trip making typically will revert to the automobile mode.

### **Relation of Sandy Springs Planning to Atlanta Regional Commission**

Sandy Springs is located within Fulton County. The City is part of the Atlanta Region, which encompasses 18 counties in the metropolitan Atlanta area. The Atlanta Regional Commission (ARC) serves as the Metropolitan Planning Organization (MPO) for the Atlanta Region. ARC provides demographic and transportation forecasts for the Atlanta metropolitan area extending to those areas designated as being in non-attainment for federal air quality Standards.

Therefore, the ARC travel demand model includes a 20 county area. Figure 9.1 shows the City of Sandy Springs within the Atlanta Region.

## Transportation and Air Quality

Federal legislation requires that the transportation planning program evaluate the impacts of transportation on air quality. The Atlanta region is in non-attainment for ozone and particulate matter. Travel and transportation factors are a key part of on-road mobile source emissions inventory development. In order to maintain eligibility for federal transportation funds, the ARC Regional Transportation Plan (RTP) must demonstrate conformity with the emission budgets established in the State Implementation Plan (SIP) for air quality attainment. This is accomplished through air quality models using the output results from the regional travel demand model. A conformity determination demonstrates that the total emissions projected for a transportation plan and program recommendations are within the emissions limits (or budgets) established by the SIP.

## GOALS AND PERFORMANCE MEASURES

Sandy Springs is forecasted to grow steadily through the year 2030. Thoughtful goals and effective performance measures ensure a long range, needs-based perspective that will assist in effectively identifying and implementing transportation initiatives responding to the city's forecasted growth. The federal Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) emphasizes the importance of transportation infrastructure investment driven by the need for improvement. The transportation goals and performance measures established for Sandy Springs were designed to meet the city's transportation needs.

## Transportation Goals

The eight draft transportation goals reflect comments from the City of Sandy Springs staff, the Citizen's Advisory Committee (CAC), stakeholders, and the general public. The goals address six important community themes:

THEME	GOAL
<b>Mobility</b>	<ul style="list-style-type: none"><li>○ Address travel demand efficiently, minimizing congestion and improving the flow of travel</li><li>○ Coordinate transportation and land use plans to better balance transportation need and improve access</li></ul>
<b>System Balance</b>	<ul style="list-style-type: none"><li>○ Integrate alternative travel modes, including transit, pedestrian and bicycle, to provide connectivity within and between modes and optimize use of energy resources and existing infrastructure</li><li>○ Utilize the functional classification of facilities to balance needs of local and pass-through travel</li></ul>
<b>Safety</b>	<ul style="list-style-type: none"><li>○ Develop a safer travel environment for all transportation modes</li></ul>
<b>Land Use</b>	<ul style="list-style-type: none"><li>○ Support economic development initiatives and encourage development that includes live, work, and play</li></ul>
<b>Quality of Life</b>	<ul style="list-style-type: none"><li>○ Support transportation improvements that are functionally and aesthetically consistent with the community / neighborhood environment and quality of life</li></ul>

- System Preservation**
- Preserve the transportation system for the future by implementing appropriate system maintenance and refurbishment

### Performance Measures

The study will use performance measures to quantify the relationship between possible improvement recommendations and the transportation goals. The measures are necessary as part of a needs-based plan development to help answer questions like:

- What is the best combination of transportation projects to improve transportation and serve people and commerce in Sandy Springs?
- What benefits are returned from our investment in transportation?
- Are the appropriate alternatives identified?
- What transportation investments provide the best utilization of resources?

Performance measures help track system performance over time. They provide accountability and link strategic planning to resource allocation. Performance measures as a package give a sense of the extent to which the current and recommended program can improve the system and accomplish the intent of the goals established by the community for transportation.

Performance measures for the Sandy Springs Multimodal Transportation Plan were selected to provide the means to evaluate the transportation system. The performance measures related to transportation goals, are quantifiable, and use readily available data. The measures are also meaningful to the public and policy-makers. Table 9.1 summarizes performance measures recommendations based on CAC input, data availability, and input from the City of Sandy Springs. The performance measures will be used to test and evaluate alternative improvements.

**Table 9.1**  
**Transportation Performance Measures**

Category	Performance Measure
Mobility	<ul style="list-style-type: none"> <li>- Travel time along key corridors</li> <li>- Delay at congestion “hot spot” intersections</li> <li>- Ratio of volume demand to available capacity</li> <li>- Travel time index (ratio of congested to non-congested travel time)</li> <li>- Vehicle hours traveled</li> <li>- Commute time along key corridors</li> <li>- Availability of pedestrian and transit facilities at activity centers</li> <li>- Vehicle miles traveled</li> </ul>
System Balance	<ul style="list-style-type: none"> <li>- Bicycle suitability index</li> <li>- Population within walkable distance of transit stop</li> <li>- Population within walkable distance of activity center served by sidewalk</li> <li>- Number/spacing of pedestrian and bicycle crosswalks across main roads</li> <li>- Major destinations connected via bicycle and pedestrian paths</li> <li>- Pedestrian and bicycle facilities within walking /biking distance of schools, libraries, and parks</li> <li>- Number of carpools and vanpools originating in Sandy Springs</li> <li>- Transit trip times</li> </ul>

	<ul style="list-style-type: none"> <li>- Number of trips through Sandy Springs on key corridors.</li> <li>- Number of local trips on key corridors.</li> <li>- Number of access points per mile along key corridors</li> </ul>
Safety	<ul style="list-style-type: none"> <li>- Number of crashes (auto, bus, pedestrian, and bike)</li> <li>- Potential for future crashes (number of conflict points)</li> <li>- Traffic volume through high crash locations</li> </ul>
Land Use	<ul style="list-style-type: none"> <li>- Consistent with Sandy Springs future land use plan and current development proposals</li> <li>- Miles of sidewalk and bike routes connecting activity centers to surrounding communities</li> <li>- Number of residential units within a walkable distance of commercial and office activity centers</li> <li>- Number of residential units within an acceptable travel time via transit to commercial and office activity centers</li> </ul>
Quality of Life	<ul style="list-style-type: none"> <li>- Residential areas having more than two modes of travel available for community based trips to activity centers, schools, parks, and libraries</li> <li>- Miles of congested travel to access activity centers, freeway, and MARTA rail</li> </ul>
System Preservation	<ul style="list-style-type: none"> <li>- Miles of road resurfaced versus reconstructed</li> <li>- Number of structures with low sufficiency ratings</li> </ul>

## TRAVEL CHARACTERISTICS

Sandy Springs residents use many different modes of transportation to commute to work both within the county and to other surrounding counties. However, traditional car, truck, or van is the choice of the large majority of workers not working at home, accounting for 91 percent of 47,300 total workers over 16 years of age, or 43,260 people. Following car, truck, or van, the next most popular choice is public transit serving six percent or 2,660 people. All other modes of transportation, including bicycles and walking, make up the remaining three percent. Table 9.2 displays the number and percentage of citizens utilizing each mode.

**Table 9.2**  
**Manner of Commute Comparison, 2000**

<b>Manner of Commute</b>	<b>Number of Citizens</b>	<b>Percentage</b>
Total Workers over 16, Not Working at Home	<b>47,300</b>	<b>100.0%</b>
Car, Truck, Van	43,260	91.0%
Public Transit	2,660	6.0%
Motorcycle	25	0.1%
Bicycle	35	0.1%
Walk	860	1.8%
Other	460	1.0%

Source: US Census Transportation Planning Package 2000

When assessing existing conditions and determining future needs, it is not only important to examine commute modes but also to look at the trip termini for the city's commuters. Because of the central location of Sandy Springs, most of the City's workers are employed in the region. In 2000, 98.5 percent of the City's workers over age 16 worked within the state and of those working within the state 67.6 percent work within Fulton County. Table 9.3 contains the location of work from the year 2000.

**Table 9.3**  
**Location of Work, 2000**

Location	Number of Citizens	Percentage
Total Workers, Over 16	49,790	--
In State	49,050	98.5%
In County	33,160	66.5%
Out of County	15,890	32.0%
Out of State	740	1.5%

Source: US Census Transportation Planning Package 2000

The distance traveled to work is also a major factor in determining commuting characteristics. The best statistic for distance traveled is average commute time to work. In 2000, over half of Sandy Springs residents had a commute that lasted less than 25 minutes, with 46.8 percent having a ten to 24-minute drive. On the other hand, 11.3 percent of residents reported having a commute lasting 45 minutes or more.

Along with average commute time, the time leaving for work is another important factor because it shows peak AM traffic times as well as overall work patterns. For the most part, Sandy Springs residents work typical business hours. 11.4 percent of workers leave within the six o'clock hour, 33.9 percent leave within the seven o'clock hour, 29.65 percent leave within the eight o'clock hour, and 10.7 percent leave within the nine o'clock hour.

## **ISSUES AND OPPORTUNITIES**

An important part of the community assessment was the identification of issues and opportunities. Input from the Citizens Advisory Committee (CAC), transportation subcommittee was instrumental in identifying transportation issues to be addressed and opportunities for key transportation improvements within Sandy Springs.

### **Input from Citizens Advisory Committee**

The CAC provided input regarding transportation issues and opportunities through four meetings with the transportation subcommittee. The following are the dates and topics of each meeting:

- July 24, 2006 – Topics: Study Purpose and schedule / Initial discussion of goals and objectives – issues and opportunities.
- August 28, 2006 – Topics: Comments on draft goals and performance measures / top 10 list of issues and opportunities.

- September 25, 2006 – Topics: Discussion of sidewalks, bike lanes, and trail network with both Transportation and Parks and Recreation Subcommittees.
- October 23, 2006 – Topics: Overview of transportation needs assessment preliminary findings / breakout work sessions for two groups to cover multimodal transportation needs and opportunities for separate focus areas in central Sandy Springs.

## **Identification of Issues and Opportunities**

The top ten list of issues and opportunities below were determined based on input from the CAC transportation subcommittee and City staff. Potential improvements to address the identified issues will be considered in the community agenda portion of the comprehensive plan. In addition to these issues and opportunities related to mobility, safety, connectivity, and availability of various travel modes, preservation of the existing infrastructure is a critical challenge to be faced by the City of Sandy Springs.

### **1. Enhancing Traffic Signal Operations and Safety**

Traffic signal operations control movements at intersections, where through movement capacity is most limited. An optimally timed and coordinated signal system can significantly reduce travel delay and stops along a corridor. Intersection safety is also important, as intersections typically have more conflict points and experience more crashes than roadway segments. Improvements to reduce conflicts and enhance driver expectancy can reduce crash frequency and severity.

### **2. Reducing Traffic Congestion at “Hot Spots”**

Traffic congestion along arterials typically occurs where two major roads cross, limiting the available green time for each road. Reducing congestion at these “hot spots” can reduce overall travel time.

### **3. Providing Mobility for Trips Through, To/From, and Within the City**

People travel along the streets of Sandy Springs for a variety of trip purposes. Local trips satisfy needs within communities and between neighborhoods and commercial areas. Trips to and from Sandy Springs are made by those who work elsewhere and/or those who choose to satisfy a portion of their shopping and recreation outside the City. Longer distance trips through Sandy Springs are made by those who live and work beyond the City. The transportation system must provide mobility for all of these trips purposes.

### **4. Establishing a Grid Network to Provide Options for Travel**

Connectivity of the roadway network can provide additional options for travel in congested areas. A well developed grid allows dispersion of traffic over several roads. Over time, the various routes tend towards providing similar travel time. In a less comprehensive fashion, additional roadway connections can provide multiple paths for travelers to use in accessing the main roadway, reducing congestion at critical intersections. It can also provide an alternative to travel on congested arterials for those making local trips to destinations along a busy arterial corridor.

#### 5. Improving Availability of Transit Service

Transit is a key component to providing travel alternatives to the automobile. Frequent local transit service can provide an extension to the walking environment for travel within activity areas. Other local trips can feed activity areas so that users can avoid activity center parking and congestion. Longer distance transit trips can provide higher speed access to nearby and distant activity areas. Transit availability and frequency of service are two important factors in attracting riders as an alternative to automobile travel.

#### 6. Incorporating BRT and other Premium Transit in Sandy Springs

Transit along local streets is subject to the same traffic delays as automobiles, limiting its potential effectiveness in saving time for travelers. Incorporation of Bus Rapid Transit (BRT) or other premium transit options in Sandy Springs can provide travel time advantages along key routes. These travel time savings are critical to encouraging people to park their cars and utilize transit.

#### 7. Satisfying Parking Needs in Activity Centers

As activity centers grow, satisfying parking needs is important to maintain the viability and attractiveness of the activity centers. Excess parking can lead activity center users to make frequent short trips via automobile within the activity center, limiting the effectiveness of pedestrian, bicycle, and transit modes. Limited parking can cause increases in traffic congestion, as drivers must circle the area multiple times to find a place to park. Satisfying parking needs should take both ends of the spectrum into account.

#### 8. Calming Traffic to Enhance Safety while Maintaining Connectivity

The residential neighborhoods were identified as one of the City's primary assets in discussions with the Citizen's Advisory Committee. Preserving the integrity and safety within the neighborhoods is critical to the future of Sandy Springs. Traffic calming has been used effectively in many areas of the Atlanta area to enhance safety along residential streets. Although many potential traffic calming techniques have been employed throughout the United States, speed humps are the most common element employed in the Atlanta area for residential speed control. The advantage of traffic calming is that it can provide control of speeds without reducing connectivity, as would be the case with a road closure.

#### 9. Providing Sidewalk and Bicycle Lanes for Travel to/from Destinations and Access to Transit

Sidewalks and bicycle lanes are critical transportation infrastructure elements necessary for providing alternative travel options versus automobile traffic. Providing connectivity to existing community facilities (such as schools, libraries, and parks) is an important use of the pedestrian and bicycle network. Providing additional connectivity to key transit facilities/routes and activity centers is another critical area to reduce the need for automobile travel.

#### 10. Managing Access Points along Corridors

Providing access to adjacent properties is one of the primary purposes of a road. However, when the road is a congested urban arterial such as Roswell Road, frequent parcel by parcel access can degrade operations due to the friction of turning vehicles and can provide extra

conflict points, increasing crash potential. Effective management of access points can preserve through capacity along arterials. However, careful planning of access for key areas is critical to avoid impacts to properties.

### **Previous Studies Addressing Issues**

Examination of traffic congestion and transportation system needs is not new to Sandy Springs. Several previous studies have looked at these issues and recommended improvements to the roadway network. The Sandy Springs Livable Centers Initiative (LCI) and subsequent Connecting Sandy Springs (Grid Study) provided recommendations related to pedestrian needs and local roadway connections. These project recommendations are shown in Figure 9.2.

Complementary to ongoing LCI improvement efforts in Sandy Springs, the Perimeter Community Improvement District has developed a series of projects that address improvement needs within the Perimeter CID boundaries, which include the portion of Sandy Springs from Glenridge Drive / Barfield Road east to Dekalb County. Figure 9.3 shows improvement projects that are a part of the Perimeter CID plans.

Another key component to transportation planning in the Sandy Springs area is the Regional Transportation Plan (RTP) prepared by ARC. This financially constrained plan provides improvements that are part of the regional air quality conformity determination. Figure 9.4 shows the Sandy Springs improvements that are a part of the RTP. Improvements that are a part of the 2006 to 2011 Transportation Improvement Program (TIP) are included in Table 9.4. Improvements for the remainder of the RTP period are included in Table 9.5.

## **ROADWAY CAPACITY AND SAFETY NEEDS ASSESSMENT**

Automobiles are the most frequently used mode of travel in the City of Sandy Springs, as they are in the overall Atlanta Region. In addition, other modes of travel directly or indirectly use the roadway network. For example, transit buses travel on the roads with automobiles and pedestrians and bicycles often use facilities immediately adjacent to roads. Therefore, roadway capacity and operations are critical to defining transportation needs. In addition to mobility, safety is another key factor related to the roadway network. Crashes provide a large drain on community resources and frequently result in incident related traffic congestion. The following pages describe the results of the roadway capacity and safety related needs.

### **Roadway Jurisdiction and Functional Classification**

Sandy Springs has 394 centerline miles of existing roadway network with 19 roadway bridges. Figure 9.5 shows the jurisdiction responsible for maintaining and operating various roads within the city limits. As shown in this figure, most of the roadways in Sandy Springs are city streets. Four roadways in the City of Sandy Springs are under State of Georgia jurisdiction: I-285, SR 400, SR 9 (Roswell Road), and Abernathy Road/Johnson Ferry Road between Cobb County and SR 400. City streets comprise 71% of the roads, while State Roads comprise 29%.

Roads are classified by function for purposes of analysis and evaluation of the roadway's effectiveness within the system. Roadways classification is based on the facility's accessibility and mobility. Streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets do not serve travel independently in any major way, rather the

network functions together to facilitate access. Functional classification defines the nature of a facility's operation in serving the flow of trips through a highway network.

On one end of the spectrum are expressways/interstates, which provide the greatest mobility with controlled access. On the other end are local roads, which provide the greatest accessibility and feed traffic into higher capacity roads. A description of the system's major functional classifications is presented below and is shown in Figure 9.6.

- **Interstate Highways and Freeways**– Interstates and freeways provide the greatest level of mobility, with access limited to interchanges. I-285 is the only interstate facility and SR 400 is the only freeway within Sandy Springs. These facilities comprise 73 miles (19 percent) of the total roadway network.

Tables 9.4 and 9.5 (due to their size these are located at the end of this chapter)

- **Principal Arterials** – A principal arterial is a street or road whose primary function is to carry through traffic over relatively long distances between major areas of the county. The arterial system in the city comprises 3 miles, or less than one percent of the total roadway network. Specific major arterial facilities are Johnson Ferry Road from Cobb County to Abernathy Road and Glenridge Drive between Abernathy Road and I-285.
- **Minor Arterials** – A minor arterial is a street or road whose primary function is to carry through traffic over moderate distances between principal arterial streets and/or activity centers. The minor arterial system in Sandy Springs comprises 41 miles (10 percent) of the total roadway network, including Northside Drive, Roswell Road, Powers Ferry Road, Glenridge Drive, Glenridge Connector, Mount Vernon Highway, and Peachtree Dunwoody Road from Atlanta City Limits to Glenridge Drive.
- **Collectors** – A collector is a street or road whose primary function is to carry through traffic over minor distances from local streets and subdivisions to an activity center or higher classification street. The minor collector system in Sandy Springs comprises 39 miles (10 percent) of the total roadway network. Long Island Drive, Mount Paran Road, Riverside Drive and Dalrymple Road are examples of such roadways.
- **Local Streets** – Local streets feed the collector system from low volume residential and commercial areas. In Sandy Springs, local streets comprise 238 miles (60 percent) of the total roadway network.

In addition to the local functional classification system, originally established by Fulton County, GDOT monitors its own functional classification system, as shown in Figure 9.7. The primary differences between the GDOT and local roadway classification systems are within the arterial and collector classifications.

Under the GDOT functional classification, Johnson Ferry Road north of Abernathy road is labeled a minor arterial instead of a principal arterial and Glenridge Drive north of Johnson Ferry Road is considered a collector as opposed to the local classification of principal arterial. The GDOT classification also changes the northern part of Northside Drive from minor arterial to collector. The opposite is true for the eastern part of Mount Vernon Highway between Johnson Ferry Road and Peachtree Dunwoody Road and Peachtree Dunwoody Road between I-285 and Mount Vernon Highway; the local classification system calls these parts of the roadway network

collectors, whereas GDOT lists them as minor arterials. Another difference is that Lake Forrest Road is a collector under the GDOT system, but only a local road under the local functional classification. The City of Sandy Springs is considering modifications to the functional classification system to reflect local roadway use and community road use.

### **Roadway Analysis Criteria**

The level of system performance varies by type of transportation facility, geographic location, time of day, and other characteristics. Each roadway in the network has a theoretical capacity based on its functional classification and characteristics. When roadways are operating in free-flow conditions, capacity constraints are not apparent. However, as traffic volumes increase, available capacity is restricted and roadway congestion results. Federal regulations define traffic congestion as the level at which transportation system performance is no longer acceptable.

Capacity needs are identified using measures such as daily volume to capacity (v/c). The v/c ratio of a specific roadway is an indicator of the level of service (LOS) that can be expected on that roadway. A v/c ratio of less than 1.0 indicates that a road can handle additional volume and remain within capacity. A v/c ratio of 1.0 indicates that a road has reached its capacity, and additional traffic volume will result in a less than acceptable LOS. A v/c ratio of more than 1.0 indicates that a road's traffic volume exceeds its capacity to handle that traffic, resulting in an unacceptable LOS. The computation and analysis of roadway v/c allows system-wide analysis of the transportation network, providing an approximation of the LOS of roadways or corridors, based on information such as lane configuration, observed roadway speed, and traffic volumes.

V/C ratios are linked to LOS to provide an easier way to communicate roadway operations. LOS is a user-based assessment of conditions. Roadways are given a letter designation, with A representing the best operating conditions and F representing the worst. The 2000 *Highway Capacity Manual* provides the following LOS guidelines:

- LOS A, B and C indicate conditions where traffic can move relatively freely.
- LOS D describes vehicle speed beginning to decline slightly due to increasing flows. Speed and freedom of movement are severely restricted.
- LOS E describes conditions where traffic volumes are at or close to capacity, resulting in serious delays.
- LOS F describes breakdown in vehicular flow. This condition exists when the flow rate exceeds roadway capacity. LOS F describes traffic downstream from the bottleneck or breakdown.

Throughout the City of Sandy Springs Multimodal Transportation Plan, the following LOS criteria are used to determine congestion levels on roadway segments.

- LOS A through C is equivalent to a v/c of 0.7 or less.
- LOS D is equivalent to a v/c of 0.701 to 0.85.
- LOS E is equivalent to a v/c of 0.851 to 1.00.
- LOS F is equivalent to a v/c greater than 1.00.

## Roadway Characteristics

Available roadway network capacity is determined by functional classification, number of lanes, traffic controls, and utilization. The number of lanes and traffic signal locations within the City of Sandy Springs are shown in Figure 9.8. Most of the local residential streets have two lanes, but several large facilities also traverse the city, providing capacity for higher volumes of through traffic along collector and arterial routes. The City of Sandy Springs has over one hundred signalized intersections within its borders. Each of these signals is maintained by either the Fulton County Department of Transportation or Georgia Department of Transportation (GDOT).

Signalized intersections limit capacity along a corridor due to the sharing of green time among competing movements. In addition, capacity is reduced at unsignalized intersections where traffic on the main road slows to allow for turning traffic to accelerate or decelerate. Although the overall reduction in capacity at an individual unsignalized access point is less than at a traffic signal, the cumulative effects of multiple access points can significantly reduce traffic speeds along the main road. In addition, these access points provide locations of potential vehicle conflicts, increasing the potential for crashes. Figure 9.9 shows the number of access points per mile along key corridors in Sandy Springs. As this figure shows, the highest concentration of access points is along Roswell Road between I-285 and Abernathy Road. Along this section, the tight curb radii for many of the driveways reduces turning speed, resulting in more significant speed reductions in this area. Abernathy Road between Johnson Ferry Road and Roswell Road has the second highest number of access points per mile. However, these are primarily residential driveways, which are used less frequently than the commercial driveways along Roswell Road and thus, have less effect on travel speed.

Access to the freeway system is an important part of regional travel for trips to, from and through Sandy Springs. This Freeway Access is provided via eight interchanges (including one for access to the Northridge MARTA station), as shown in Figure 9.10. In addition, fifteen freeway crossings are present along I-285 and SR 400 that do not have interchanges. The longest gaps in freeway access occur north of Abernathy Road, where the five mile section is served by one full access interchange and one MARTA station access interchange.

In addition to roadway capacity and access, the physical condition of the road is a key component to planning future needs. If roadway conditions require extensive repaving and maintenance, that reduces the amount of local money available for system expansion and upgrades. Figure 9.11 shows the PACES<sup>1</sup> rating for roads within Sandy Springs. As this figure shows, few of the roads are in poor or very poor condition. However, the majority of roads are in fair condition, which indicates the need for resurfacing in the near future. This will be an important maintenance issue, as roads that deteriorate to poor or very poor conditions often need reconstruction work, which is much more costly than resurfacing. The multimodal transportation plan will address strategies for preservation of roadway infrastructure.

## Roadway Operational Needs

In order to determine which facilities in Sandy Springs are congested, the Atlanta Regional Commission's (ARC's) region-wide transportation plan and travel demand model was used. Model results for the 2005 and 2030 networks were evaluated. It is important to note that the model network reflects the network of regionally significant roads. Therefore, some local roads

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<sup>1</sup> GDOT rating system for pavement condition.

are not included on the network. In addition to the travel demand model data, 2006 daily traffic volume data was obtained from the GDOT roadway characteristics (RC) datafiles. Figure 9.12 shows these daily traffic volumes. As this figure shows, roads such as Roswell Road, Johnson Ferry Road, Abernathy Road, and Hammond Drive experience daily traffic volumes between 20,000 and 40,000 vehicles per day, spanning the range of capacity for a four to five lane road.

### Congestion Management System

As required by federal law and regulations, ARC has developed a Congestion Management System (CMS) for the Atlanta region. Within the CMS, roadways are identified for congestion monitoring, evaluation, and identification of improvements to alleviate congestion. Figure 9.13 shows the congested roads indicated in the CMS. Eleven roadways in Sandy Springs are included in the CMS (see Table 9.6).

The 2005 ARC Transportation Plan and model results support the findings in the CMS. Figure 9.14 shows 2005 levels of congestion based on daily traffic volumes derived from the travel demand model. Figure 9.15 shows 2005 levels of congestion based on the PM peak hour. These figures indicate similar congestion patterns when based on daily and PM peak hour congestion.

**Table 9.6**  
**ARC Congestion Management System Facilities**

<b>Roadway</b>	<b>Segment</b>
Roswell Road	Entire length of Sandy Springs
GA-400	Entire length of Sandy Springs
Peachtree Dunwoody Road	Atlanta City Limits to Spalding Drive
Glenridge Drive	Roswell Road to Johnson Ferry Road
Johnson Ferry Road	DeKalb County to Glenridge Drive and Glenridge Drive to Cobb County
Northside Drive	Atlanta City Limits to Mount Vernon Highway
Mount Vernon Highway	Northside Drive to DeKalb County and DeKalb County Line to Gwinnett County (northeast Sandy Springs)
Riverside Drive	Mount Vernon Highway to Dalrymple Road
Dalrymple Road	Riverside Drive to Roswell Road
Hammond Drive	Mount Vernon Highway to DeKalb County
Abernathy Road	Johnson Ferry Road to Mount Vernon Highway

Source: Atlanta Regional Commission, Congestion Management System, 2004

### Future Congestion with Existing Network plus Committed Projects

A network of existing roadways and those projects that have funding already committed to them for right of way and/or construction was used to determine future volume to capacity ratios. This is typically termed the E+C Network. The list of projects included as committed projects is shown previously in Table 9.4. These projects are shown graphically in Figure 9.16. Traffic congestion in 2030 based on projected daily traffic volumes and the E+C network are shown in

Figure 9.17. Most of the roads shown have a v/c ratio greater than one, or LOS F, including GA 400, I-285, Riverside Drive, and many segments of Roswell Road. Very few roads have a v/c ratio of less than 0.85, giving them and LOS A-D. This indicates traffic congestion is expected to be severe in year 2030 if the committed projects alone are implemented. Similar results were found for PM Peak hour conditions along most roads (refer to Figure 9.18).

### **Roadway Safety**

In order to evaluate roadway safety, vehicle crashes, including those between vehicles and pedestrians or bicyclists, were examined for the period of 2001 through 2004 using the GDOT crash database for roadway facilities within Sandy Springs. Figure 9.19 identifies segments with crash frequencies above the 2004 statewide average crash rates:

- 190 crashes per 100 million vehicle miles traveled for urban freeways
- 490 crashes per 100 million vehicle miles traveled for urban arterials
- 460 crashes per 100 million vehicle miles traveled for collectors and local roads

As this figure shows, many of the arterial and collector roads within Sandy Springs have crash rates above the statewide average.

Figure 9.20 shows the location of bicycle and pedestrian related crashed from 2001 to 2004. As this figure shows, many of the pedestrian crashes occurred along Roswell Road. This heavily traveled automobile corridor is also served by a well used MARTA route, requiring pedestrian movement along and across Roswell Road to access bus stops.

### **Summary of Identified Roadway Capacity and Safety Needs**

The assessment of roadway capacity and safety has examined several areas of transportation needs in categories as indicated below.

- Examination of roadway functional classification and its relationship to service of adjacent land use and alternative travel modes.
- Operational improvement of critical intersections along roadways identified as congested in future years.
- Operational improvements to enhance traffic flow and pedestrian crossing capabilities along Roswell Road from I-285 through Abernathy Road, in the traditional Sandy Springs business core.
- Capacity enhancement of roadways identified as congested in future years.
- Management of access points along arterial corridors to ensure throughput capacity is preserved.
- Identification of appropriate parallel routes and connections to reduce local trip loading on the arterial roadway network.
- Improvement of freeway access through capacity and operational enhancement of congested interchanges.
- Improvement of I-285 and SR 400 corridors so that capacity constraints on these major facilities do not shift traffic to the City roadway network.
- Safety improvements along roads with high crash rates.
- Focused pedestrian safety improvements along Roswell Road.
- Regular maintenance and improvement of existing infrastructure to preserve the existing transportation network.

## TRANSIT NEEDS ASSESSMENT

Transit is an important transportation mode for travel within the City of Sandy Springs. The City is served by several MARTA bus routes and four Marta Rail Stations. This high frequency of rail station coverage through the east side of the City provides MARTA rail access within a walkable distance of ½ mile from the Glenridge connector south of I-285 to Spalding Drive, north of the Northridge station. This high degree of transit coverage provides a unique opportunity to emphasize transit travel in that area. The paragraphs below provide additional detail regarding transit routes and facilities in Sandy Springs.

### Transit Routes and Facilities

During the 2005 fiscal year, MARTA had bus and paratransit ridership of 71 million and rail ridership of 71 million. The average number of users who rode MARTA each day was 460,000. MARTA data indicates that 18 percent of the people traveled on MARTA to conduct their personal business. Special events drew 18 percent of the riders. People traveling to work made up 61 percent, and other purposes consisted of 2 percent. In contrast, half-fare riders use MARTA primarily for personal business (41% of trips) and medical related trip purposes (25% of trips). Paratransit riders use the service primarily for medical related trip purposes (70% of trips).

Figure 9.21 shows the transit routes and station facilities for Sandy Springs. There are four MARTA rail stations pertinent to the Sandy Springs Multimodal Transportation Plan, including:

- Medical Center Station is located on Peachtree Dunwoody at Lake Hearn Drive. There are approximately 200 spaces available for MARTA use. Parking for less than 24 hours will be free with a validated ticket, and no long-term parking will be available for MARTA patrons. This station provides access to Northside Hospital, Scottish Rite Hospital, and St. Joseph's Hospital.
- Dunwoody Station is located adjacent to Perimeter Mall. It is located at the intersection of Hammond Drive and Perimeter Center Parkway. Free parking is available for up to 24 hours or \$4 per day for long-term parking.
- Sandy Springs MARTA station is located at the corner of Mount Vernon Highway and Abernathy Road/Perimeter Center West. It contains 1,170 parking spots; less than 24 hour parking is free and long-term parking is \$4 per day. Some of the nearby attractions include the Perimeter Pointe Shopping Center, Northpark Town Center office complex, and Saint Joseph's Specialty Center for Wellness & Rehabilitation Care.
- North Springs Marta station is the northernmost MARTA rail station, and it attracts many commuters from the area. It is accessible off GA 400 and Peachtree Dunwoody Road. There are 2,325 parking spots at this location with free parking for up to 24 hours. After 24 hours, parking is available for \$7 per day.

The Dunwoody station is in Dekalb County, while the other three stations are within the Sandy Springs city limits. Ten bus routes serve each of these four stations; these routes are listed below along with their weekday peak and off peak headways, respectively, in minutes.

- Medical Center (North Rail Station 8)
  - 41 Windsor Parkway / Lake Hearn (headway – peak 45 min., off-peak 45 min.)
- Dunwoody (North Rail Station 9)
  - 5 Sandy Springs (headway – peak 12 min., off peak 20 min.)
  - 87 Roswell Road (headway – peak 22 min., off peak 18 min to -33 min)
  - 150 Perimeter East (headway – peak 45 min., off peak 45-57 min.)
  - Cobb County Transit (CCT) Route 65 (headway – peak 60 min, off peak no service)
- Sandy Springs (North Rail Station 10)
  - 148 Powers Ferry (headway – peak 70 min., off peak no service)
- North Springs (North Rail Station 11)
  - 85 Roswell /Alpharetta (headway – peak 20 min., off peak 44 min.)
  - 87 Roswell Road (Weekdays Only) (headway – peak 22 min., off peak 35-40 min.)
  - 128 Spalding (headway – peak 30 min., off-peak no service)
  - 132 Tilly Mill (headway – peak 20 min., off peak 32 min.)
  - 140 Mansell Road Park / Ride (headway – peak 15min., off peak, 40 min.)
  - 143 Windward Park / Ride (headway – peak 25-35 min., off-peak, no service)

### **MARTA Expansion Plans**

The MARTA Board of Directors began examining the possibility of expanding the North Line in July 2002, but determined that there were not enough riders to support the expansion. Therefore, a new study was initiated to explore the potential for establishing a Transit-Oriented Development (TOD). A TOD would generate additional ridership for MARTA, while offering areas for economic development in north Fulton County. In determining a site for the potential TOD, the study will examine density, modal options, and diversity (income, employment, shopping, and recreation), while maintaining the involvement of all stakeholders. When it began, the study concentrated on seven separate focus areas along the GA-400 corridor. As of October 2006, the choices have been narrowed down to North Point Mall, Old Milton Parkway, Windward Parkway, and Holcomb Bridge Road. The ultimate site choice will be dependent upon the population of the area, the number of jobs, the availability of land, and the ability to develop a TOD. Eventually, each of these four focus areas will be tied together via transit (rail or bus).

### **Bus Stop Optimization Study with MARTA**

The City of Sandy Springs is currently working with MARTA to examine bus stops along key routes in the City to determine the optimum location and configuration of bus stops. The Roswell Road corridor is served by a popular bus route (route #87). However, many of the bus stops with heavy usage do not have shelters while other sheltered stops are not well used. This joint effort will help determine the best location for bus stops along this and other important transit corridors.

### **Summary of Identified Transit Needs**

The assessment of transit has identified several improvement needs, as indicated below.

- Travel time benefits for bus service along key corridors to encourage commute riders.
- Bus frequency sufficient to encourage new ridership along routes through congested areas.
- Effective feeder network for service to MARTA rail stations.
- Incorporation of walkable communities and transit oriented development near MARTA rail stations.
- Examination of local circulation routes within walkable activity centers to link MARTA Rail with walkable areas.
- Examination of applicability of BRT or other premium transit service in Sandy Springs.

## **PEDESTRIAN NEEDS ASSESSMENT**

Providing for safe and convenient pedestrian travel is an essential part of creating a lively community, neighborhood, commercial area, or downtown district. Pedestrian access is also vital to a successful and accessible transit system. Federal transportation policy promotes walking as a viable transportation mode. The pedestrian facilities were examined based on their capabilities to provide the following:

- Connection to Transit
- Linkage of neighborhoods and community centers
- Connection between activity centers

The pedestrian facility needs criteria reflect a qualitative assessment of a pedestrian's expectations of where sidewalks should be available. In general, pedestrians prefer to have sidewalks along streets in more urbanized and developed areas. In less developed areas, pedestrians expect sidewalks along major roadways that connect to local activity centers. The following paragraph describes pedestrian needs for access to transit, to link neighborhoods with community facilities, and pedestrian needs for connecting with activity centers.

### **Pedestrian Needs for Access to Transit**

Figure 9.22 shows areas where pedestrian needs are greatest in regards to accessing transit facilities. Areas are marked one-half mile from each rail station and one-quarter mile from each bus route, reflecting the distance that a typical person is willing to walk to reach transit. As this figure shows, the majority of the city is within walking distance of transit; however, areas in the southwest, northeast, and along the border of Cobb County are not as accessible as the remainder of Sandy Springs. In addition, access to transit via a well designed and safe sidewalk system does not mean there is connectivity with the type of transit service needed. In order to be effective, the transit and pedestrian access components need to function as a cohesive multimodal system so that the user views both travel modes as part of the same overall trip.

### **Pedestrian Needs for Linking Neighborhoods to Community Facilities**

Pedestrian movement between neighborhoods and community facilities can provide a means for accessing these facilities without the use of automobiles. Potential users of these neighborhood links are often school age children traveling to schools, libraries, or parks. Figure 9.23 shows the areas within a walkable distance of community facilities. As this figure shows, much of the City is within a walkable distance of community facilities.

## **Pedestrian Needs in Activity Centers**

Established activity centers provide the most easily identified areas of pedestrian need. Figure 9.24 shows the Sandy Springs and Perimeter activity centers and MARTA rail stations. In the case of Sandy Springs, the pedestrian activity areas are not yet fully established. The Sandy Springs LCI study indicated the Sandy Springs District boundary where pedestrian movement should be emphasized (shown in Figure 9.24). Streets within this area were designated as village, corridor, or neighborhood streets in the LCI study. Cross-sections proposed in the LCI study for each of these street categories includes sidewalks. However, pedestrian infrastructure is not present in many of these locations and/or does not possess the design characteristics to provide an attractive pedestrian environment.

## **Summary of Identified Pedestrian Needs**

The assessment of pedestrian movement and facilities has identified several needs, as indicated below.

- Safe and efficient connection between neighborhoods and community facilities, such as schools, libraries, and parks.
- Sidewalk present in activity centers of sufficient width and separation from traffic to encourage pedestrian movement.
- Combine pedestrian and transit circulator strategies to provide for local trip making within activity centers.
- Safe and ADA compliant pedestrian connections to transit to provide a means of access to bus and rail routes.
- Effective pedestrian routes to enhance walkability within transit oriented areas.

## **BICYCLE NEEDS ASSESSMENT**

The City of Sandy Springs continues to urbanize, additional bicycle facilities and networks will be needed to accommodate the increased demand created by general population growth and increasingly higher density land uses. There is a need to enhance the infrastructure to include safe, enjoyable bicycle and pedestrian facilities for transportation and recreation. Bicycle networks can be built from several types of bicycle facilities both within and off existing roadway right-of-way.

AASHTO recognizes three classes of bicycle facilities that can be included in the bicycle network:

- Bicycle Paths (Class I): A bicycle facility separate from motorized vehicular traffic. A bicycle path may be located within a highway right-of-way or on an independent right-of-way. A bicycle path is not a sidewalk but may be designed to permit shared use with pedestrians.
- Bicycle Lanes (Class II): A lane designated for exclusive or preferential bicycle use through the application of pavement striping or markings and signage.
- Bicycle Routes (Class III): Roadways designated for bicycle use through the installation of directional and informational signage.

In addition, AASHTO recognizes three classes of cyclists based on their abilities and general acceptance for travel in mixed traffic.

- Class A cyclists - experienced riders who do not mind traveling with traffic. These riders can travel at the mid to top range of cycling speed and often prefer on-street travel to multi-use paths)
- Class B cyclists - occasional riders who are less secure about travel in mixed traffic. These riders typically travel near the middle range of cycling speed and typically prefer to travel along off-road trails or designated bike lanes.
- Class C cyclists - novice riders who are not likely to ride in mixed traffic. These riders operate at speeds closer to that of pedestrians and typically prefer travel along facilities that are completely separated from traffic.

Providing facilities for these three classes of cyclists that recognize their varying travel patterns is a challenge necessary to develop a viable bike network in Sandy Springs.

### **Bicycle Suitability and Operations**

The quantitative analysis was undertaken using the ARC Bicycle suitability system. ARC's system assesses the suitability of each roadway for accommodating bicycle travel based on information contained in GDOT's Roadway Characteristics (RC) file. The suitability rating is based on three factors, traffic volume, travel speeds, and functional class. Table 9.7 shows the numeric value for each of the factors.

**Table 9.7**  
**Numeric Values for Suitability Factors**

Traffic Volume	Less than 2,500 vehicles per day per lane	4
	Between 2,500 and 5,000 vehicles per day per lane	2
	More than 5,000 vehicles per day per lane	0
Travel Speeds	Less than or equal to 30 mph	4
	Between 30 and 40 mph	2
	Greater than 40 mph	0
Functional Class	Local Streets/Collectors	4
	Minor Arterials	2
	Other(major arterials and highways)	0

Once a determination has been made about which score to give a section of road from each factor, the sum of the three scores is divided by three. The section then receives a descriptive rating based on Table 9.8 below.

**Table 9.8**  
**Descriptive Category Based On Numeric Value**

3-4.0	Best conditions for bicycling
2-2.9	Medium conditions for bicycling
1-1.9	Difficult conditions for bicycling
<1	Very difficult conditions for bicycling

The above procedure provides a standard, system wide review of conditions related to potential on-street bicycle use. The following sections summarize citywide results.

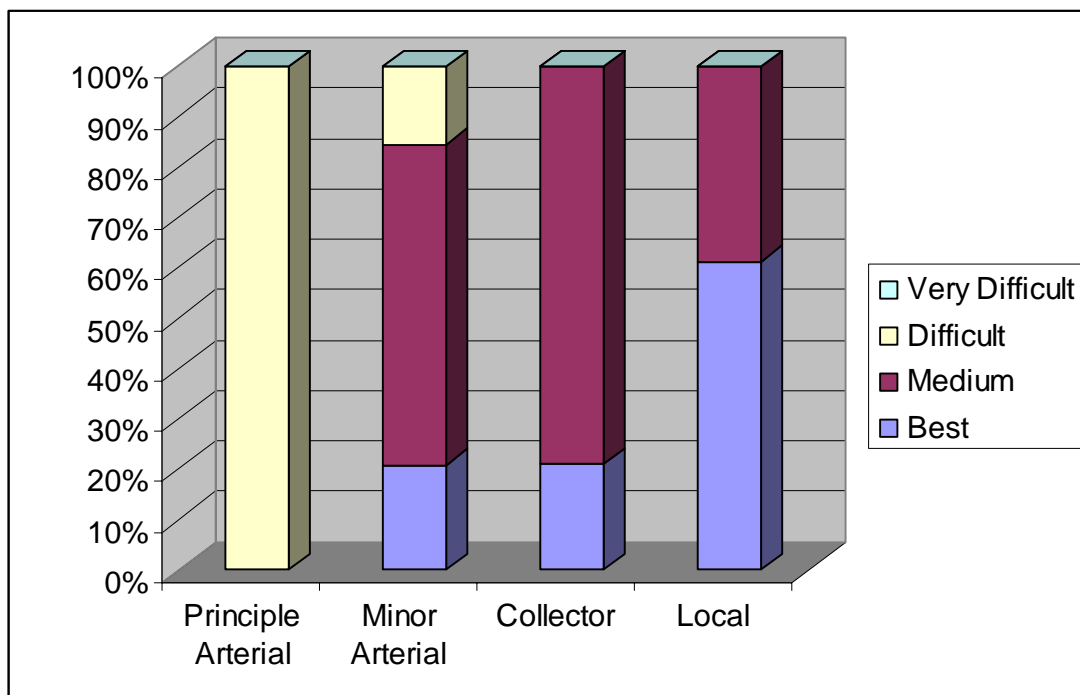
#### Citywide and Corridor Results

On a citywide basis, over 41.6 percent of the City's roadways have the best conditions for bicyclists, 54.4 percent have medium conditions, and four percent have difficult conditions. The functional classification makes a big difference in the probability of a road being suitable for bicyclists. Nearly all roads classified as collector or local received a best or medium rating. Most roads classified as minor arterials were rated as medium with a few rated as best, and all of the principle arterials were classified as difficult, as seen in Table 9.9. Figure 9.25 shows bicycle suitability applied to corridors within the City of Sandy Springs.

#### Preliminary Results of ARC Bike Plan

Another way to look at bicycle suitability is through a level of service criteria. ARC is currently applying this type of criteria to strategic bicycle corridors as a part of ARC's Atlanta Regional Pedestrian and Bicycle Plan. Figure 9.26 shows the draft results of this initial assessment. As this figure shows, designated strategic bike corridors within Sandy Springs are located along heavily traveled roads, having medium to difficult suitability index. These corridors similarly show marginal to poor bicycle LOS using the ARC Bike Plan rating.

**Table 9.9**  
**Bicycle Suitability by Functional Classification**



### Local Efforts for Determining Potential Bicycle Routes

The local cycling community in Sandy Springs has been proactive in determining bicycle routing opportunities. These efforts have identified potential corridors for use in developing a bicycle network for longer distance travel, as well as local connectivity. Extensive efforts by active cyclists to examine local routes have yielded information on potential future on-street bike facilities. These efforts indicate the potential for defining bicycle corridor alternatives to use of the heavily traveled arterial road network. These potential routes will be further examined in development of alternatives in the community agenda portion of the Comprehensive Plan.

### **Connectivity to Regional Routes and Local Destinations**

Connection of bicycle routes to other regional routes and key destinations is important to a well developed and useable bicycle network. Important areas to be connected in Sandy Springs are shown in Figure 9.27. Existing bicycle facilities are present along the Chattahoochee River from near Morgan Falls to just east of SR 400. This is being extended east to East Roswell Park in Roswell and north along Old Alabama Road, crossing Holcomb Bridge Road to ultimately connect to the Alpharetta Greenway.

Local efforts to plan a trail network have indicated the potential for a bicycle facility runs from the Morgan Falls area south along the river, then east along Johnson Ferry Road/Abernathy Road, and then northeast to the North Springs MARTA Station. A second potential east-west connection is along a power line easement and Pitts Road from Morgan Falls to Dunwoody Park in Dekalb County.

In addition to the existing and potential trails shown in Figure 9.27, this figure also shows Parks and Marta Station areas that are potential bicycle destinations for recreational and work trips. The community connections to schools, parks, and libraries, shown in Figure 9.23 present another need for shorter distance local bicycle facilities.

### **Summary of Identified Bicycle Needs**

The assessment of potential bicycle travel and destinations has identified several needs, as indicated below.

- Safe and efficient connection for bicycles, as well as pedestrians, between neighborhoods and community facilities, such as schools, libraries, and parks.
- Facilities to accommodate longer distance travel and connectivity to important recreational resources along the Chattahoochee River.
- Development of an off-road trail system to accommodate recreational use and park access for users not comfortable with travel in mixed traffic.
- Bike access to employment centers and MARTA for commuter use.
- Development of bike routes and facilities to make cycling a viable mode within walkable activity centers.
- Enhancing safety of bicycle travel through development of appropriate facilities and standardized intersection and trail crossing treatments.

## **RAILROADS, TRUCKING, PORT FACILITIES, AND AIRPORTS NEEDS ASSESSMENT**

Freight movement within and through communities can have a large effect on travel in areas where trucking and industrial / warehouse access are key features. In the case of Sandy Springs the primary freight movements are related to movement of trucks. Railroad and Port access for freight movements do not contribute significantly to truck traffic within the City, other than their effect on overall truck traffic along major freeways.

### **Truck Movement Through Sandy Springs**

The I-285 and SR 400 corridors provide the primary means for movement of freight through Sandy Springs. Truck traffic destined for Sandy Springs uses the state and local route system for access to trucking destinations. Figure 9.28 shows truck routes and prohibitions within Sandy Springs. The roadways in Sandy Springs on which trucks are permitted include I-285, GA 400, Roswell Road, Johnson Ferry Road/Abernathy Road, and Northridge Road. Roadways that prohibit trucks from using them are Riverside Drive/Dalrymple Road, Trowbridge Road, Spalding Drive, Ball Mill Road, Glenridge Drive between Spalding Drive and Glenridge Lake Parkway, Lake Forrest Road between Long Island Drive and Mount Paran Road, and Forest Hills Drive between Roswell Road and Highpoint Road.

### **Access to Regional Airports**

Sandy Springs does not have an airport within the City limits. However, access to regional airports provides an important connection to this travel mode. Major access routes to the following airports are shown in Figure 9.29:

- Hartsfield Jackson International Airport – Atlanta
- Peachtree Dekalb Airport – Chamblee
- Brown Field / Fulton County Airport – West of Atlanta

As this figure shows, the major freeways (I-285 and SR 400) provide primary access to regional airports. In addition, MARTA rail stations provide passenger access to the Hartsfield Jackson International Airport via a rail station located directly within the airport terminal.

### **Summary of Identified Railroad, Trucking, Port Facility, and Airport Needs**

The assessment of travel needs for access to railroads, port facilities, and airports, as well as to accommodate truck traffic has identified several needs, as indicated below.

- Railroad and port facility access accommodated primarily via I-285 and SR 400 and should be coordinated with regional and statewide efforts.
- Maintaining truck movement through Sandy Springs along I-285 and SR 400.
- Maintaining local truck routes and prohibitions to allow service to businesses without impacting local streets.
- Providing efficient access to MARTA rail stations for use in passenger access to Hartsfield Jackson International Airport.
- Providing adequate long term parking to facilitate use of MARTA for passenger access to Hartsfield Jackson International Airport.

- Recognizing transit circulation needs in Sandy Springs to facilitate use of MARTA for passenger access from Hartsfield Jackson International Airport.

[ATTACH TABLES 9.4 AND 9.5 – 11" X 17"]

[ATTACH ALL FIGURES]